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GROUP: Transmission

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THIS BULLETIN SUPERSEDES TECHNICAL SERVICE BULLETIN 21-005-07, DATED MARCH 20, 2007 WHICH SHOULD BE REMOVED FROM YOUR FILES. ALL REVISIONS ARE HIGHLIGHTED WITH **ASTERISKS**** AND INCLUDES THE ADDITION OF 2004 AN AND KJ MODEL YEAR PCM SOFTWARE.**

THE wiTECH DIAGNOSTIC APPLICATION IS THE PREFERRED METHOD FOR FLASHING ECUs.

HELP USING THE wiTECH DIAGNOSTIC APPLICATION FOR FLASHING AN ECU IS AVAILABLE BY SELECTING "HELP" THEN "HELP CONTENTS" AT THE TOP OF THE wiTECH DIAGNOSTIC APPLICATION WINDOW.

THE wiTECH SOFTWARE LEVEL MUST BE AT RELEASE 10.01 OR HIGHER TO PERFORM THIS PROCEDURE.

StarMOBILE DESKTOP CLIENT, StarMOBILE or StarSCAN MAY ALSO BE USED TO PERFORM THIS PROCEDURE.

WHENEVER A MODULE IS REPROGRAMMED, THE SOFTWARE IN THE DRBIII®; MUST BE PROGRAMMED WITH THE LATEST REVISION LEVEL AVAILABLE.

SUBJECT:

Flash: 42RLE - Improved Hill Climb Capability In Reverse Or DTC's P1713 / P1776

OVERVIEW:

This bulletin involves selectively erasing and reprogramming the Powertrain Control Module (PCM) with new software.

MODELS:

**2004	(AN)	Dakota **
2006	(DR)	Ram Truck
2005 - 2006	(HB)	Durango
2004 - 2006	(KJ)	Liberty / Cherokee
2005 - 2006	(ND)	Dakota
2005	(TJ)	Wrangler



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NOTE: This bulletin applies to vehicles equipped with a 42RLE transmission (sales codes DG6 or DGV).

SYMPTOM/CONDITION:

A. The vehicle operator may experience a low torque condition from the vehicle powertrain that may reduce the capability of the vehicle to ascend certain grades/hills when the transmission is in reverse gear (while backing up).

B. The customer may experience, separate from the above low torque condition, a Malfunction Indicator Lamp (MIL) illumination due to one of the following transmission related Diagnostic Trouble Codes (DTC's):

- P1713 - Restricted Manual Valve In T2 Range.

- P1776 - Solenoid Switch Valve Latched In LR Position.

Prior to the MIL illumination for one of the above transmission related DTC's, the customer may not have experienced any transmission related driveability conditions.

DIAGNOSIS:

Using a Scan Tool (DRBIII®, StarSCAN® or wiTech) with the appropriate Diagnostic Procedures verify all engine systems are functioning as designed. If DTCs other than those listed above are present record them on the repair order and repair as necessary before proceeding further with this bulletin.

If the vehicle operator describes or experiences the Symptom/Condition, perform the Repair Procedure.

NOTE: The 2005 KJ will require electrical isolation (disconnect) of the Controller Anti-Lock Brake (CAB) module during the PCM reprogramming process.

PARTS REQUIRED:

Qty.	Part No.	Description
1	04275086AB	Label, Authorized Modification

SPECIAL TOOLS / EQUIPMENT REQUIRED:

VEHICLES UPDATED USING DRBIII®

NPN	Battery Charger
CH2002	General Purpose Interface Bus Cable Assembly
CH6000A	Scan Tool (DRBIII®)
CH7000A/7001A	J1962 Cable with red DRBIII® connector
	TechCONNECT Workstation

NOTE: An updated J1962 cable has been released. This cable has a red colored connector at the DRBIII® connection. Use this cable whenever a flash is being performed.

VEHICLES UPDATED USING StarSCAN®

NPN	Battery Charger
CH9401	StarSCAN® Tool
CH9404	StarSCAN® Vehicle Cable
CH9409	StarSCAN® Documentation Kit
CH9410	StarSCAN® Ethernet Cable, 12 ft.
CH9412	StarSCAN® Software Update Device Kit
	TechCONNECT PC or equivalent

REPAIR PROCEDURE - USING DRB III® TO RETRIEVE THE FLASH FILE FROM TECHCONNECT:

NOTE: Whenever a controller is programmed, the software in the DRBIII® must be programmed with the latest revision level available. Current DRBIII® revision level is 63.3 or higher.

NOTE: If this flash process is interrupted/aborted, the flash process should be restarted and then follow the directions on the DRBIII®.

NOTE: Remove any unnecessary PCMCIA cards prior to starting a DRB III® flash.

1. Before beginning the reprogramming procedure, remove any old flash reprogramming files from the DRBIII® memory. To clear the memory from the MAIN MENU power up the DRBIII® and then:
 - a. Simultaneously press the "MORE" and "YES" keys.
 - b. A screen will appear requesting a "COLD BOOT".
 - c. Follow the on screen instructions by selecting the "F4" key.
 - d. When the DRBIII® reboots to the MAIN MENU, proceed to [Step #2](#)
2. With the ignition switch in the "RUN" position, determine the original part number of the PCM currently in the vehicle. Using the DRBIII® select:
 - a. "DRBIII® Standalone"
 - b. "1998 - 2007 Diagnostics"
 - c. "All (Except Below)"
 - d. "Engine"
 - e. "Module Display"
 - f. Record the "PCM part #" on the repair order for later reference.
3. Connect the DRBIII® to TechCONNECT. Open TechTOOLS and verify that the "DRBIII® Status: Connected" message is in the upper right corner of the TechTOOLS screen.
4. Enter the "PCM part #" recorded in [Step #2](#) in the "Parts Criteria" area and select "Show Updates". TechTOOLS will populate the available updates.
5. Select the calibration.
6. Select the "DRBIII" radio button which is next to the "Download/Update" button.
7. Select the "Download/Update" button.
8. Monitor the "Flash Download/Update Progress" window on the TechCONNECT and follow the instructions on TechCONNECT. When the download/update process from TechCONNECT to the DRBIII® is complete, proceed to [Step #9](#).

9. Disconnect the DRBIII® from TechCONNECT.

10. Open the hood and install a battery charger. Using a voltmeter, verify that the charging rate provides 13.2 - 13.5 volts. Set the battery charger to continuous charge. Do not allow the charger to time out during the flash process. Remove the charger from the battery when the flash process is complete.

NOTE: Do not allow the charging voltage to climb above 13.5 volts during the flash process.

11. If the vehicle is a 2004 or 2005 KJ:

- a. Turn the ignition switch to the "OFF" position.
- b. Disconnect the electrical harness connector from the Controller Anti-Lock Brake (CAB) module.
- c. Turn the ignition switch to the "ON" position, do not start vehicle.

12. Connect the DRBIII® to the vehicle.

13. Turn the ignition to the "Run" position (engine not running).

14. Download the flash from the DRBIII® to the vehicle PCM. Using the DRBIII® select:

- a. "Vehicle Flash"
- b. Follow the directions on the DRBIII® screen. When the PCM flash process is complete, proceed to the next step.

15. If the vehicle is a 2004 or 2005 KJ:

- a. Turn the ignition switch to the "OFF" position.
- b. Connect the electrical harness connector to the Controller Anti-Lock Brake (CAB) module.
- c. Turn the ignition switch to the "ON" position, do not start vehicle.

NOTE: Due to the PCM programming procedure, a DTC may be set in other modules (TCM, BCM, MIC, SKIM, etc.) within the vehicle, if so equipped. Some DTC's may cause the MIL to illuminate. Check all modules using "Module Scan", record the DTC's, and erase these DTC's prior to returning the vehicle to the customer. Erase any DTC's in the PCM only after all other modules have had their DTC's erased.

NOTE: The following step is required by law when reprogramming a PCM and/or TCM.

16. Type the necessary information on the "Authorized Modification Label" p/n 04275086AB and attach near the VECI label.

REPAIR PROCEDURE - USING StarSCAN® TO RETRIEVE THE FLASH FILE FROM THE INTERNET:

NOTE: Before performing this Repair Procedure, the operating software in the StarSCAN®; must be programmed with software release level 7.03 SP1 or higher. The software release level is visible in the blue header at the top of the StarSCAN® screen.

NOTE: The StarSCAN® diagnostic scan tool fully supports Internet connectivity. However, to take advantage of this feature you must first configure the StarSCAN® for your dealership's network. Make sure the StarSCAN® is configured to the dealership's network before proceeding. For instruction on setting up your StarSCAN® for the dealer's network refer to either: "DealerCONNECT > Service > StarSCAN and StarMOBILE tools > Online Documentation", or refer to the StarSCAN® Quick Start Networking Guide. The StarSCAN® Quick Start Networking Guide is also available on the www.dcctools.com website under the "Download Center".

NOTE: If this flash process is interrupted/aborted, the flash should be restarted.

1. Open the hood and install a battery charger. Using a voltmeter, verify that the charging rate provides 13.2 - 13.5 volts. Set the battery charger to continuous charge. Do not allow the charger to time out during the flash process. Remove the charger from the battery when the flash process is complete.

NOTE: Do not allow the charging voltage to climb above 13.5 volts during the flash process.

2. Connect the CH9410 StarSCAN® ethernet cable to the StarSCAN® and the dealer's network drop.
3. Connect the CH9404 StarSCAN® vehicle cable to the StarSCAN® and the vehicle.
4. Power ON the StarSCAN®.
5. Retrieve the old ECU part number. Using the StarSCAN® at the "Home" screen:
 - a. Select "ECU View"
 - b. Touch the screen to highlight the PCM in the list of modules.
 - c. Select "More Options"
 - d. Select "ECU Flash".
 - e. Record the part number at the top of the "Flash PCM" screen for later reference.
 - f. Select "Browse for New File". Follow the on screen instructions.
 - g. Select "Download to Scantool".
 - h. Select "Close" after the download is complete, then select "Back".
 - i. Highlight the listed calibration.
 - j. Select "Update Controller".
 - k. When the update is complete, select "OK".
6. Verify the part number at the top of the "Flash PCM" screen has updated to the new part number.

NOTE: Due to the ECU programming procedure, a DTC may be set in other modules (TCM, BCM, MIC, SKREEM, etc.) within the vehicle, if so equipped. Some DTC's may cause the MIL to illuminate. From the "Home" screen select "System View". Then select "All DTCs". Press "Clear All Stored DTCs" if there are any DTCs shown on the list.

NOTE: The following step is required by law when reprogramming a PCM and/or TCM.

7. Type the necessary information on the "Authorized Modification Label" p/n 04275086AB and attach near the VECI label.

POLICY:

Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Amount
18-19-06-38	Module, Powertrain Control (PCM) - Reprogram (DR, HB, ND, and 2006 KJ) - (C)	0.2 Hrs.
18-19-06-38	Module, Powertrain Control (PCM) - Reprogram (2004 AN, 2004, 2005 KJ and 2005 TJ only) - (B)	0.5 Hrs.

FAILURE CODE:

FM	Flash Module
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